

To: Robberson, Bill[Robberson.Bill@epa.gov]
From: Erica Gaddis
Sent: Mon 8/17/2015 11:59:15 PM
Subject: Fwd: Gold Mine analysis plan for today
WQ_timeSeries_v7.pdf

----- Forwarded message -----

From: **Jake Vanderlaan** <jvander@utah.gov>
Date: Mon, Aug 17, 2015 at 5:39 PM
Subject: Re: Gold Mine analysis plan for today
To: Erica Gaddis <egaddis@utah.gov>
Cc: Scott Daly <sdaly@utah.gov>, Jeffrey Ostermiller <jostermiller@utah.gov>, Toby Hooker <tobyhooker@utah.gov>, Lenora Sullivan <lenoras@utah.gov>, Jodi Gardberg <jgardberg@utah.gov>, James Harris <jamesharris@utah.gov>, Carl Adams <carladams@utah.gov>

Attached are the plots with both sets of historical data appended where appropriate.

On Mon, Aug 17, 2015 at 1:21 PM, Erica Gaddis <egaddis@utah.gov> wrote:

Jake,

This is great. Could you double triple check the time stamp on EPA montezuma creek data?

E

Sent from my iPhone

On Aug 17, 2015, at 12:41 PM, Jake Vanderlaan <jvander@utah.gov> wrote:

The most recent time series plots are attached.

Also available at: U:\PERMITS\MONITORS\Incident Reports and Compliance
Sampling\Gold King Mine Spill San Juan\Chemistry Results
Data\Interpretive\TimeSeriesPlots

These include EPA data (combined with ours where at the same location, separate if not), screening standards, and rain events. I've also done two versions - one with all analytes, and one with just the five that Jeff identified.

Jake

Jake

On Mon, Aug 17, 2015 at 12:01 PM, Erica Gaddis <egaddis@utah.gov> wrote:

Thanks Scott. I'm going to circulate this to the other agencies for comment/interpretation.

On Mon, Aug 17, 2015 at 11:56 AM, Scott Daly <sdaly@utah.gov> wrote:

The the draft of today's screening analysis is in the "EDD analysis" folder. Many total metals continue to be above screening values. The spike in total metals observed at most stations on 8/14 receded in the 8/15 sample. However, the Clay Hills site more than doubled between 8/14 and 8/15 for most metals.

All dissolved metals for domestic source water, ag, and aquatic life continue to be below screening values.

On Mon, Aug 17, 2015 at 7:33 AM, Erica Gaddis <egaddis@utah.gov> wrote:

Team,

Here is the outline for a plan today. We have three goals:

- 1) We want to get the trend analysis graphics up on the website tonight with a reasonable explanation for the patterns (or lack thereof) that we see in the data.
- 2) We also want to get Scott's updated screening tables up this evening.
- 3) We need to decide if we can hold daily samples for delivery until Thursday so that we can avoid the shuttling.

We finally got some interesting data from EPA in the San Juan upstream of Utah. Jake will plot it for us but it looks like a dissolved pulse came through Shiprock on 8/9 and a total metals pulse on 8/11. We should see if we can follow that pattern in Utah. We also have EPA's data for Utah through 8/11 that Jake will add into the dataset.

Scott - work your magic on the screening tables.

Jake - please focus on the trend graphics. I sent you a separate email with the additional data; also add the rain events; work with Toby to get the historic data graphics to line up with your axes.

Toby - focus on the historic graphics (box plots); CDFs if you have time; it would also be helpful to compare the total tonnage of metals (2 million pounds??) to the weekly sediment load in the San Juan. That is the last priority though.

Lenora - I think you are in the clear today unless we need you for a map or data questions.

Jeff - I'd like your help writing the text to go with the trend graphics. You can probably wait to get started until this afternoon when they are ready to review. Part of the story will be 'storm interference' and the influence of Chinle wash on the Mexican Hat site so you can start a short write-up on those issues this morning if you have time. I have precipitation records for the watershed over the last week which I will drop by.

Everyone - I sent you an appt for 2:30 to study the graphics once again and help craft our story. If they are ready earlier, then we can meet earlier. We also have a call with EPA and Navajo Nation analysts at 3:00 to discuss the patterns and see if they have additional insights to share with us.

I will be on the phone most of this morning but email me if you need anything.

Thanks,
Erica

--

Erica Brown Gaddis, Ph.D.
Assistant Director

Division of Water Quality
Utah Department of Environmental Quality
195 North 1950 West
Salt Lake City, Utah 84116
P [801.536.4314](tel:801.536.4314) | F [801.536.4301](tel:801.536.4301)
C [801.205.3769](tel:801.205.3769)

--
Scott Daly
Utah Division of Water Quality
Watershed Protection
[801.536.4333](tel:801.536.4333)
sdaly@utah.gov

--

Erica Brown Gaddis, Ph.D.
Assistant Director

Division of Water Quality
Utah Department of Environmental Quality
195 North 1950 West
Salt Lake City, Utah 84116
P 801.536.4314 | F 801.536.4301
C 801.205.3769

<WQ_timeSeries_v6.pdf>

<WQ_timeSeries_v6_BigFive.pdf>

--

Erica Brown Gaddis, Ph.D.
Assistant Director

Division of Water Quality
Utah Department of Environmental Quality
195 North 1950 West
Salt Lake City, Utah 84116
P 801.536.4314 | F 801.536.4301
C 801.205.3769